1. Solve the quadratic equation below. Then, choose the intervals that the solutions belong to, with $x_1 \leq x_2$ (if they exist).

$$-19x^2 + 7x + 3 = 0$$

A. $x_1 \in [-16.61, -16.43]$ and $x_2 \in [16.54, 17.56]$

B. $x_1 \in [-0.28, -0.15]$ and $x_2 \in [0.44, 0.98]$

C. $x_1 \in [-1.31, -0.42]$ and $x_2 \in [0.19, 0.48]$

D. $x_1 \in [-12.62, -11.26]$ and $x_2 \in [4.67, 5.14]$

E. There are no Real solutions.

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2. Solve the quadratic equation below. Then, choose the intervals that the solutions x_1 and x_2 belong to, with $x_1 \leq x_2$.

$$10x^2 + 33x - 54 = 0$$

A. $x_1 \in [-10, -8.4]$ and $x_2 \in [0.49, 1.1]$

B. $x_1 \in [-5.4, -4.3]$ and $x_2 \in [1.13, 1.66]$

C. $x_1 \in [-3.2, 0.2]$ and $x_2 \in [3.45, 4.34]$

D. $x_1 \in [-45.7, -43.9]$ and $x_2 \in [11.88, 12.65]$

E. $x_1 \in [-16.6, -11.8]$ and $x_2 \in [-0.14, 0.57]$

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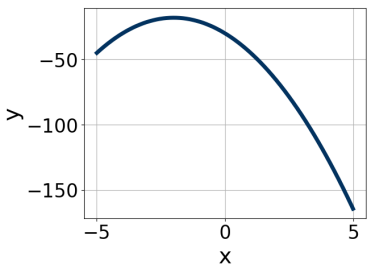
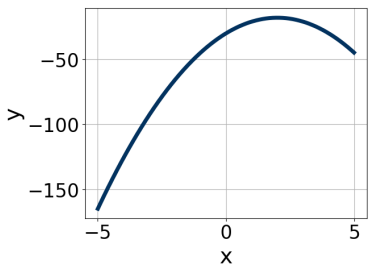
3. Graph the equation below.

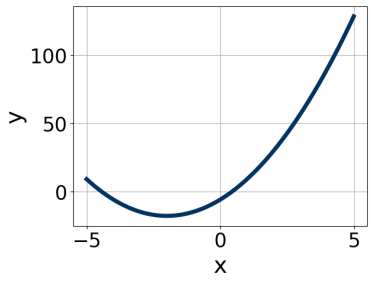
$$f(x) = (x + 2)^2 - 18$$

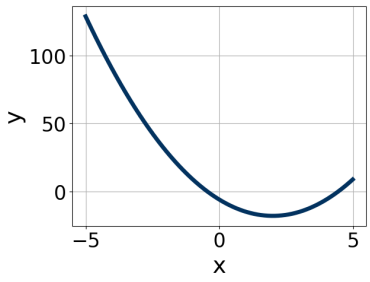
A.



B.



C. 

D. 

E. None of the above.

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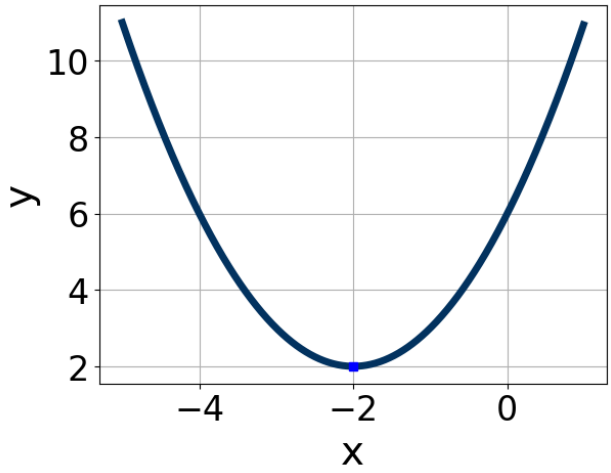
4. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that a, b, and c belong to.



A. $a \in [-1.7, -0.3]$, $b \in [-5, -3]$, and $c \in [-2, 0]$

B. $a \in [-1.7, -0.3]$, $b \in [-1, 7]$, and $c \in [-2, 0]$

C. $a \in [-0.5, 1.6]$, $b \in [-5, -3]$, and $c \in [0, 5]$

D. $a \in [-0.5, 1.6]$, $b \in [-5, -3]$, and $c \in [6, 7]$

E. $a \in [-0.5, 1.6]$, $b \in [-1, 7]$, and $c \in [6, 7]$

---

5. Factor the quadratic below. Then, choose the intervals that contain the constants in the form $(ax + b)(cx + d); b \leq d$.

$$54x^2 - 33x - 10$$

A. $a \in [1.92, 2.94]$, $b \in [-5, 0]$, $c \in [24, 34]$, and $d \in [-1, 3]$

B. $a \in [0.57, 1.03]$, $b \in [-49, -40]$, $c \in [0, 2]$, and $d \in [9, 14]$

C. $a \in [11.87, 12.58]$, $b \in [-5, 0]$, $c \in [4, 5]$, and $d \in [-1, 3]$

D. $a \in [5.38, 6.08]$, $b \in [-5, 0]$, $c \in [7, 14]$, and $d \in [-1, 3]$

E. None of the above.

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6. Solve the quadratic equation below. Then, choose the intervals that the solutions x_1 and x_2 belong to, with $x_1 \leq x_2$.

$$25x^2 + 15x - 54 = 0$$

A. $x_1 \in [-45.96, -44.18]$ and $x_2 \in [29.57, 30.1]$

B. $x_1 \in [-2.29, -1.39]$ and $x_2 \in [1.14, 1.28]$

C. $x_1 \in [-3.98, -3.12]$ and $x_2 \in [0.57, 0.64]$

D. $x_1 \in [-9.7, -8.02]$ and $x_2 \in [0.05, 0.25]$

E. $x_1 \in [-1.35, 0.14]$ and $x_2 \in [3.43, 3.76]$

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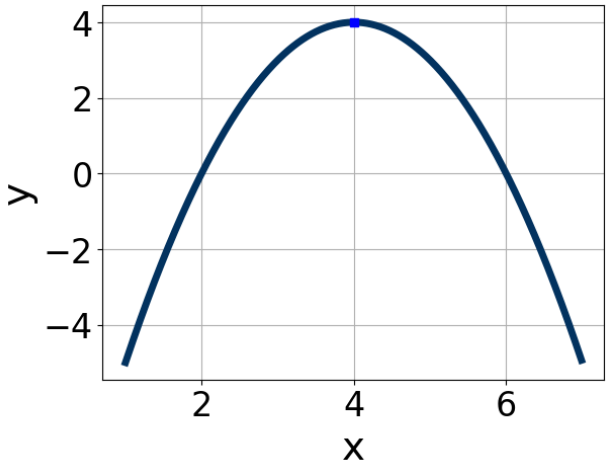
7. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that a, b, and c belong to.



A. $a \in [-1, 0]$, $b \in [7, 12]$, and $c \in [-14, -7]$

B. $a \in [-1, 0], \quad b \in [-8, -4], \text{ and } \quad c \in [-14, -7]$

C. $a \in [0, 5], \quad b \in [7, 12], \text{ and } \quad c \in [18, 22]$

D. $a \in [0, 5], \quad b \in [-8, -4], \text{ and } \quad c \in [18, 22]$

E. $a \in [-1, 0], \quad b \in [-8, -4], \text{ and } \quad c \in [-21, -17]$

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8. Solve the quadratic equation below. Then, choose the intervals that the solutions belong to, with $x_1 \leq x_2$ (if they exist).

$$-18x^2 + 8x + 2 = 0$$

A. $x_1 \in [-0.3, 0]$ and $x_2 \in [0.47, 0.75]$

B. $x_1 \in [-0.9, -0.5]$ and $x_2 \in [-0.4, 0.4]$

C. $x_1 \in [-11.7, -10.7]$ and $x_2 \in [3.19, 3.82]$

D. $x_1 \in [-15.4, -13.3]$ and $x_2 \in [13.48, 14.68]$

E. There are no Real solutions.

---

9. Factor the quadratic below. Then, choose the intervals that contain the constants in the form $(ax + b)(cx + d); b \leq d$.

$$16x^2 + 8x - 15$$

A. $a \in [1.04, 3.02], \quad b \in [-3, -1], \quad c \in [7.36, 8.39], \text{ and } \quad d \in [3, 8]$

B. $a \in [7.33, 9.11], \quad b \in [-3, -1], \quad c \in [1.17, 3.37], \text{ and } \quad d \in [3, 8]$

C. $a \in [-0.67, 1.7], \quad b \in [-15, -11], \quad c \in [0.58, 1.89], \text{ and } \quad d \in [20, 22]$

D. $a \in [2.63, 5.47], \quad b \in [-3, -1], \quad c \in [3.97, 5.28], \text{ and } \quad d \in [3, 8]$

E. None of the above.

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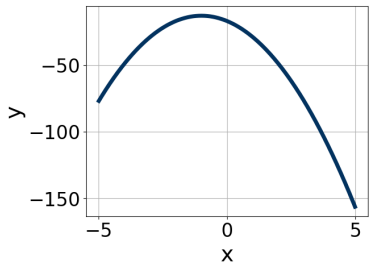
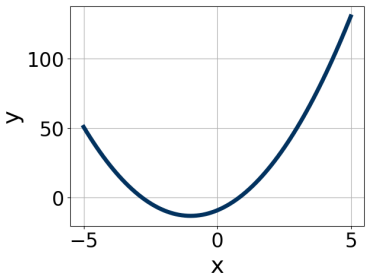
10. Graph the equation below.

$$f(x) = -(x + 1)^2 - 13$$

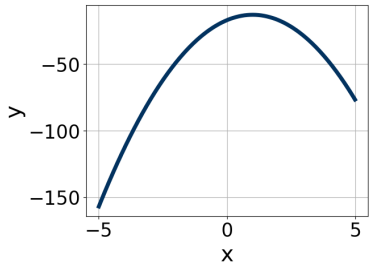
A.



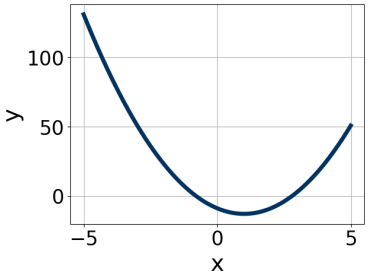
C.



B.



D.



E. None of the above.
